

REMARKS

Claims 1-5, 7-16, and 18-38 are pending in the present application. Claims 6 and 17 were previously cancelled. Claims 1, 16, 24, 28, 34, and 35 have been amended. No new matter has been added.

Claims 1-5, 7-15, and 28-38 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 1-3, 8-11, and 15 have been rejected under 35 U.S.C. § 102(e) as assertedly being anticipated by U.S. Patent No. 6,486,038 to Maszara et al (hereinafter "Maszara"). Claims 28-30 and 34-37 have been rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by Maszara. Claims 5, 14, 27, and 33 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Maszara, in view of U.S. Patent No. 6,864,152 to Mirbedini et al (hereinafter "Mirbedini"). Claims 16, 18-19, 21-22, and 25 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Maszara, in view of U.S. Patent Application Publication No. 2002/0022308A1 to Ahn et al (hereinafter "Ahn"). Claim 24 has been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Maszara, in view of Ahn, and further in view of U.S. Patent Application Publication No. 2003/0203285 to Chung et al (hereinafter "Chung"). Claims 4, 7, 12-13, 31-32, and 38 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Maszara, in view of U.S. Patent Application Publication No. 2002/0090763 to Tseng (hereinafter "Tseng"). Claims 20, 23, and 26 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Maszara, in view of Ahn, and further in view of Tseng. Applicant respectfully traverses these rejections.

Claims 1-5 and 7-15

Applicant has amended claim 1 to more clearly recite an embodiment of the present invention. In particular, Applicant has amended claim 1 to recite, "oxidizing the inactive regions of the active layer such that the active regions of the active layer are electrically isolated from each other, *the inactive regions being minimally etched.*" This limitation is not disclosed in the prior art references, and accordingly, Applicant respectfully requests that the rejections of claim 1 be withdrawn.

Applicant notes that Maszara assertedly discloses oxidizing an inactive region that has been substantially etched as illustrated in Fig. 6 of Maszara. In contrast, Applicant's invention as recited in claim 1 requires only minimally etching the inactive regions.

Regarding the Office Action's rejection of claim 1 under 35 U.S.C. § 112, first paragraph, Applicant respectfully directs the Examiner's attention to paragraph 32 of Applicant's specification. In particular, paragraph 32 of Applicant's specification states, "In accordance with the second embodiment, the active layer 210 is *minimally etched.*" It is known in the art that the patterning of the mask layer is performed using an etchant to remove unwanted portions of the mask layer. The etchant typically has a high-etch selectivity between the mask material and the substrate, such that the mask layer is etched at a higher rate than the underlying substrate. Although the etchant etches the underlying substrate at a slow rate, the underlying substrate may be etched, but only minimally etched, during the patterning of the hard mask. This is well known in the art. Thus, Applicant respectfully submits that the specification does provide support for the claimed limitation, and accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claims 2-5 and 7-15 depend from claim 1 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claims 28-38

Claim 28 as amended recites, "oxidizing the SOI wafer such that oxidized portions of the active layer in the inactive regions extend through to the insulator layer, the insulator layer not being exposed in the inactive regions, *the inactive regions being substantially not etched.*" Applicant respectfully submits that Maszara does not teach or suggest this limitation. As discussed above with reference to claim 1, Maszara assertedly discloses a process whereby oxidizing is performed on an inactive region that has been significantly etched, as illustrated in Fig. 6 of Maszara. In contrast, Applicant's invention as recited in claim 28 requires substantially not etching the inactive regions. Accordingly, Applicant respectfully requests that the rejection of claim 28 under 35 U.S.C. § 102(e) be withdrawn.

Regarding the Office Action's rejection of claim 28 under 35 U.S.C. § 112, first paragraph, Applicant respectfully submits that the specification does provide support for the recited claim limitation as discussed above with reference to claim 1. Accordingly, Applicant respectfully requests that the rejection of claim 28 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claims 29-38 depend from claim 28 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claims 16 and 18-27

Regarding claim 16, the Office Action asserts, "Ahn discloses a method of preventing semiconductor layer from bending comprises a step of forming a sidewall oxide liner 133 having a thickness of 30-300 angstroms." (Office Action, page 7.) The Office Action then asserts, "one skilled in the art at the time the invention was made would have found it obvious to modify Maszara by etching the SOI wafer to partially expose areas of layer 16/active layer so that a thickness of 30-300 angstroms remains in the etched region in view of Ahn." (Office Action, page 7.) Applicant respectfully submits that the Office Action uses impermissible hindsight and that these references cannot be combined as suggested by the Office Action.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP § 2143.03 (citations omitted). In this case, the limitation "such that 25Å to 400Å of the active layer remains in the etched regions" is not taught or suggested by the prior art. The Office Action asserts that the oxide liner teaches this feature, but this is incorrect. The oxide liner is a separate layer that is deposited. Importantly, it is not part of the active layer as recited in Applicant's claim 16.

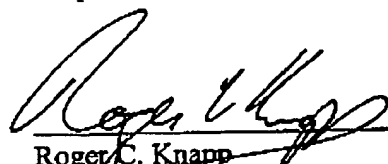
Furthermore, Ahn teaches away from the claimed invention as recited in Applicant's claim 16. "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP § 2142.02 (citations omitted). In this case, Ahn teaches etching the active layer completely down to the insulator layer. Ahn cannot be said to teach or suggest the limitation "such that 25Å to 400Å of the active layer remains in the etched regions" when Ahn explicitly

teaches etching the active layer completely down to the insulator layer. In other words, Ahn explicitly teaches away from the Applicant's invention as recited in claim 16.

Accordingly Applicant respectfully requests that the rejection of claim 16 under 35 U.S.C. § 103(a) be withdrawn. Claims 18-27 depend from claim 16 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

In view of the above, Applicant respectfully submits that this response complies with 37 C.F.R. § 1.116. Applicant further submits that the claims are in condition for allowance. No new matter has been added by this amendment. If the Examiner should have any questions, please contact Applicant's attorney at the number listed below. No fee is believed due in connection with this filing. However, in the event that there are any fees due, please charge the same, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,



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Date

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